

Attorney Docket No.: FMCE-P101

In the Claims

1 (canceled).

2 (canceled).

3 (canceled).

4 (canceled).

5 (canceled).

6 (canceled).

7 (canceled).

8 (canceled).

9 (canceled).

10 (canceled).

11 (canceled).

12 (canceled).

13 (canceled).

14 (canceled).

15 (canceled).

16 (canceled).

17 (canceled).

18 (canceled).

19 (canceled).

20 (canceled).

21 (canceled).

22 (canceled).

Attorney Docket No.: FMCE-P101

23 (canceled).

24 (canceled).

25 (currently amended): ~~The combination of claim 1,~~ In combination with a fixed offshore hydrocarbon production platform which comprises a deck attached to a base that is secured to the sea floor, the improvement comprising a GTL facility for converting natural gas into a hydrocarbon liquid which comprises:

a syngas reactor for converting the natural gas into syngas; and
a liquids production unit for converting the syngas into the hydrocarbon liquid;

wherein at least one of the syngas reactor and the liquids production unit comprises a monolithic catalyst which includes a solid body, a plurality of discrete channels which extend through the body and comprise walls, and a catalytic material which is deposited on the walls;

wherein the monolithic catalyst comprises a cell density of between about 100 cells/in² and about 1000 cells/in²;

wherein the GTL unit is sufficiently small to be located on the deck of the platform; and

wherein the natural gas and the synthesis gas gases flowing through the syngas reactor, or the syngas and the hydrocarbon liquid gases and liquids flowing through the liquids production unit, flow through the channels in a Taylor flow regime which substantially eliminates back mixing.

26 (canceled).

Attorney Docket No.: FMCE-P101

27 (canceled).

28 (canceled).

29 (canceled).

30 (currently amended): ~~The GTL facility of claim 13,~~ A GTL facility for a fixed offshore hydrocarbon production platform which comprises a deck attached to a base that is secured to the sea floor, the GTL facility comprising:

a syngas reactor for converting natural gas from a subsea well into syngas; and

a liquids production unit for converting the syngas into a hydrocarbon liquid;

wherein at least one of the syngas reactor and the liquids production unit comprises a monolithic catalyst which includes a solid body, a plurality of discrete channels which extend through the body and comprise walls, and a catalytic material which is deposited on the walls; and

wherein the monolithic catalyst comprises a cell density of between about 100 cells/in² and about 1000 cells/in²;

wherein the GTL unit is sufficiently small to be located on the deck of the platform; and

wherein the natural gas and the synthesis gas gases flowing through the syngas reactor, or the syngas and the hydrocarbon liquid gases and liquids flowing through the liquids production unit, flow through the channels in a Taylor flow regime which substantially eliminates back mixing.

Attorney Docket No.: FMCE-P101

31 (currently amended): ~~The GTL facility of claim 13,~~ A GTL facility for a fixed offshore hydrocarbon production platform which comprises a deck attached to a base that is secured to the sea floor, the GTL facility comprising:

a syngas reactor for converting natural gas from a subsea well into syngas; and

a liquids production unit for converting the syngas into a hydrocarbon liquid;

wherein at least one of the syngas reactor and the liquids production unit comprises a monolithic catalyst which includes a solid body, a plurality of discrete channels which extend through the body and comprise walls, and a catalytic material which is deposited on the walls;

wherein the monolithic catalyst comprises a cell density of between about 100 cells/in² and about 1000 cells/in²;

wherein the GTL unit is sufficiently small to be located on the deck of the platform; and

wherein the liquids production unit produces hydrogen which is used to generate heat for the conversion of natural gas into syngas in the syngas reactor.

32 (new): The combination of claim 25, wherein the monolithic catalyst comprises a crossflow design defining a series of first channels for the gases to flow through and a series of transverse second channels for a cooling medium to flow through, and wherein the second channels alternate vertically with the first channels.

Attorney Docket No.: FMCE-P101

33 (new): The combination of claim 30, wherein the monolithic catalyst comprises a crossflow design defining a series of first channels for the gases to flow through and a series of transverse second channels for a cooling medium to flow through, and wherein the second channels alternate vertically with the first channels.

34 (new): The combination of claim 31, wherein the monolithic catalyst comprises a crossflow design defining a series of first channels for the gases to flow through and a series of transverse second channels for a cooling medium to flow through, and wherein the second channels alternate vertically with the first channels.